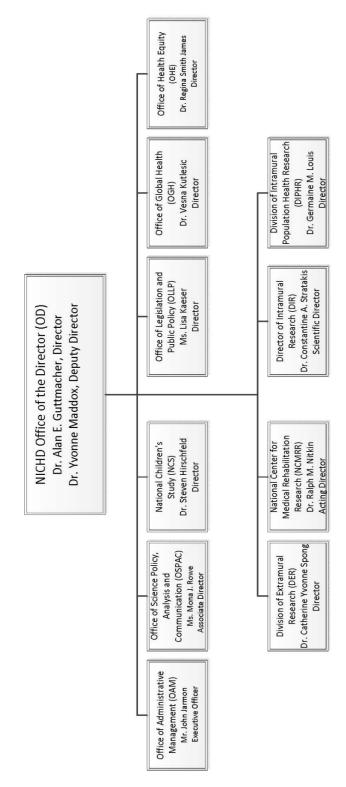
## DEPARTMENT OF HEALTH AND HUMAN SERVICES

## NATIONAL INSTITUTES OF HEALTH

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

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Eunice Kennedy Shriver
National Institute of Child Health and Human Development



### NATIONAL INSTITUTES OF HEALTH

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

For carrying out section 301 and title IV of the PHS Act with respect to child health and human development, [\$1,282,595,000] \$1,283,487,000.

## Amounts Available for Obligation<sup>1</sup>

(Dollars in Thousands)

Source of Funding	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget
Appropriation	\$1,321,398	\$1,282,595	\$1,283,487
Type 1 Diabetes	0	0	0
Rescission	-2,643	0	0
Sequestration	-66,325	0	0
Subtotal, adjusted appropriation	\$1,252,430	\$1,282,595	\$1,283,487
FY 2013 Secretary's Transfer	-7,306	0	0
OAR HIV/AIDS Transfers	0	0	0
Comparative transfers to NLM for NCBI and Public Access	-1,479	-1,765	0
National Children's Study Transfers	1,062	0	0
Subtotal, adjusted budget authority	\$1,244,707	\$1,280,830	\$1,283,487
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	\$1,244,707	\$1,280,830	\$1,283,487
Unobligated balance lapsing	-46	0	0
Total obligations	\$1,244,661	\$1,280,830	\$1,283,487

<sup>&</sup>lt;sup>1</sup> Excludes actual or estimated amounts for reimbursable activities carried out by this account:

FY 2013 - \$27,525 FY 2014 - \$30,000 FY 2015 - \$30,000

#### NATIONAL INSTITUTES OF HEALTH National Institute of Child Health and Human Development Budget Mechanism - Total<sup>1</sup>

MECHANISM	MECHANISM FY 2013 Actual FY 2014 Enacted <sup>2</sup>		Budget		FY 2015 President's Budget		7 2015 +/- 7 2014	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Bassarah Brainsta.								
Research Projects:	1 127	# 40 C 202	1.047	# 400 050	1.050	Ø510.252	_	#21 F12
Noncompeting	1,137	\$486,283	1,047	\$488,859	1,052	\$510,372	5	\$21,513
Administrative Supplements	(40)	16,359	(25)	3,000	(25)	3,000	(0)	0
Competing: Renewal	42	26.272	51	22 141	16	27.705	_	5 246
	43	26,373	51	33,141	46	27,795	-5	-5,346
New	308	101,105	343	127,677	311	106,985	-32	-20,692
Supplements	3	599	1	126	1	200	0	74
Subtotal, Competing	354	\$128,076	395	\$160,944	358	\$134,980	-37	-\$25,964
Subtotal, RPGs	1,491	\$630,719	1,442	\$652,803	1,410	\$648,352	-32	-\$4,451
SBIR/STTR	88	30,300	88	32,450	90	33,308	2	858
Research Project Grants	1,579	\$661,019	1,530	\$685,253	1,500	\$681,660	-30	-\$3,593
Research Centers:								
Specialized/Comprehensive	43	\$56,196	48	\$62,937	47	\$65,404	-1	\$2,467
Clinical Research	0	0	0	0	0	0	0	0
Biotechnology	4	4,287	4	4,287	3	2,927	-1	-1,360
Comparative Medicine	0	1,090	0	1,090	0	750	0	-340
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0
Research Centers	47	\$61,573	52	\$68,314	50	\$69,081	-2	\$767
Other Research:								
Research Careers	277	\$47,873	254	\$40,987	243	\$39,806	-11	-\$1,181
Cancer Education	0	0	0	0	0	0	0	0
Cooperative Clinical Research	80	46,640	80	46,104	80	45,616	0	-488
Biomedical Research Support	0	0	0	0	0	0	0	0
Minority Biomedical Research Support	0	0	0	0	0	0	0	0
Other	168	25,273	164	24,656	153	26,055	-11	1,399
Other Research	525	\$119,786	498	\$111,747	476	\$111,477	-22	-\$270
Total Research Grants	2,151	\$842,378	2,080	\$865,314	2,026	\$862,218	-54	-\$3,096
Ruth L Kirchstein Training Awards:	FTTPs		ETTD.		ETTD.		ETTD.	
Individual Awards	79	e2 77.6	FTTPs	¢4 220	FTTPs	¢4 420	<u>FTTPs</u>	6100
		\$3,776	85	\$4,328	87	\$4,428	2	\$100
Institutional Awards	577	28,097	564	27,519	557	27,187	-7	-332
Total Research Training	656	\$31,872	649	\$31,847	644	\$31,615	-5	-\$232
Research & Develop. Contracts	104	\$128,210	104	\$131,520	104	\$135,382	0	\$3,862
(SBIR/STTR) (non-add)	(1)	(175)	(1)	(280)	(1)	(280)	(0)	(0)
Intramural Research	345	179,534	345	184,304	345	186,147	0	1,843
Res. Management & Support	258	62,713	258	64,625	258	68,125	0	3,500
Res. Management & Support (SBIR Admin)	(0)	(63)	(0)	(330)	(0)	(330)	(0)	(0)
Construction		0		0		0		0
Buildings and Facilities		ő	l	ő		0		0
Total, NICHD	603	\$1,244,707	603	\$1,280,830	603	\$1,283,487	0	\$2,657

 $<sup>^{1}</sup>$  All items in italics and brackets are non-add entries. FY 2013 and FY 2014 levels are shown on a comparable basis to FY 2015.

<sup>&</sup>lt;sup>2</sup> The amounts in the FY 2014 column take into account funding reallocations, and therefore may not add to the total budget authority reflected herein.

#### Major Changes in the Fiscal Year 2015 President's Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. Note that there may be overlap between budget mechanisms and activity detail and these highlights will not sum to the total change for the FY 2015 President's Budget for NICHD, which is an increase of \$2.657 million above the FY 2014 level, for a total of \$1,283.487 million.

#### Research Project Grants (RPGs) (-\$3.593 million, total \$681.660 million):

NICHD will support a total of 1,500 Research Project Grant (RPG) awards in FY 2015. Non-competing RPGs will increase by 5 awards and the amount to support the costs associated with the commitments of prior year competing awards will increase by \$21.513 million compared to the FY 2014 level. Competing RPGs will decrease by 37 grants compared to the FY 2014 level of 395 awards and the amount to support the costs associated with new competing awards will decline by \$25.964 million compared to the FY 2014 level.

#### Research and Development contracts (+\$3.862 million, total \$135.382 million):

NICHD will continue to support existing research activities, including epidemiological research, pursue a wide range of research activities including contraception, newborn screening, AIDS research, pharmaceutical safety for children, and participate in cross-cutting NIH projects related to genetics and neurology.

#### Research Management and Support (+\$3.500 million, total \$68.125 million):

In addition to supporting a 1% pay increase for staff, and corresponding increases in benefit costs, NICHD will use a one-time increase in funds to support the move of the majority of the RMS staff to a new location, including costs related to establishing the facility in preparation for occupancy.

#### AIDS Research (+\$1.810 million, total \$142.055 million):

NICHD will expand its work to investigate ways to prevent the transmission of HIV, including through drug therapies, and the impact of the disease on HIV-infected populations, aligning research with the overall NIH AIDS research priorities.

## Summary of Changes<sup>1</sup>

FY 2014 Enacted		\$1,280,830
FY 2015 President's Budget		\$1,283,487
Net change		\$2,657
	FY 2015 President's Budget	Change from FY 2014
CHANGES	FTEs Budg Authori	I HIHS
A. Built-in:		
1. Intramural Research:		
a. Annualization of January 2014 pay increase & benefits	\$65,10	96 \$144
b. January FY 2015 pay increase & benefits	65,10	)6 397
c. Zero more days of pay (n/a for 2015)	65,10	06
d. Differences attributable to change in FTE	65,10	06
e. Payment for centrally furnished services	31,8	14 532
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs	89,22	770
Subtotal		\$1,843
2. Research Management and Support:		
a. Annualization of January 2014 pay increase & benefits	\$33,96	\$86
b. January FY 2015 pay increase & benefits	33,90	55 254
c. Zero more days of pay (n/a for 2015)	33,90	55
d. Differences attributable to change in FTE	33,90	55 0
e. Payment for centrally furnished services	9,59	99 160
f. Increased cost of laboratory supplies, materials, other expenses, and non-recurring costs	24,56	51 415
Subtotal		\$916
Subtotal, Built-in		\$2,759

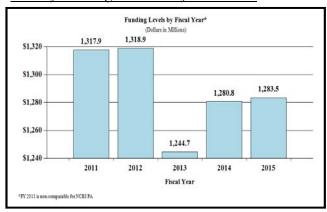
## Summary of Changes - Continued<sup>1</sup>

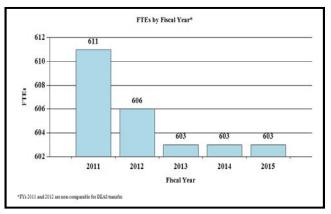
		President's Idget	Change from FY 2014	
CHANGES	No.	Amount	No.	Amount
B. Program:				
1. Research Project Grants:				
a. Noncompeting	1,052	\$513,372	5	\$21,513
b. Competing	358	134,980	-37	-25,964
c. SBIR/STTR	90	33,308	2	858
Subtotal, RPGs	1,500	\$681,660	-30	-\$3,593
2. Research Centers	50	\$69,081	-2	\$767
3. Other Research	476	111,477	-22	-270
4. Research Training	644	31,615	-5	-232
5. Research and development contracts	104	135,382	0	3,862
Subtotal, Extramural		\$1,029,215		\$534
6. Intramural Research	<u>FTEs</u> 345	\$186,147	FTEs 0	\$0
7. Research Management and Support	258	68,125	0	2,584
8. Construction		0		0
9. Buildings and Facilities		0		0
Subtotal, Program	603	\$1,283,487	0	\$3,118
Total changes				\$2,657

<sup>&</sup>lt;sup>1</sup> The amounts in the Change from FY 2014 column take into account funding reallocations, and therefore may not add to the net change reflected herein.

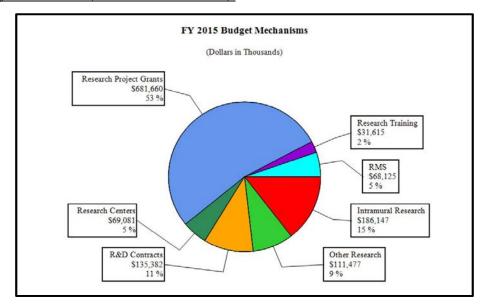
### Fiscal Year 2015 Budget Graphs

#### History of Budget Authority and FTEs:

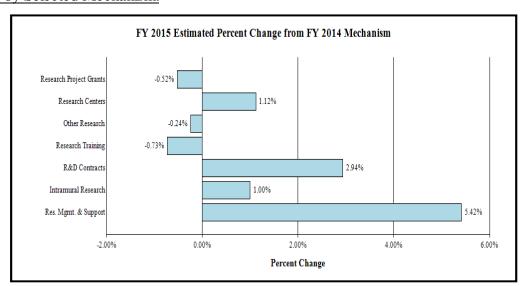




#### Distribution by Mechanism (Dollars in Thousands):



#### Change by Selected Mechanism:



### Budget Authority by Activity<sup>1</sup>

	FY 2013 Actual		FY 2014 Enacted <sup>2</sup>		FY 2015 President's Budget		FY 2015 +/- FY 2014	
Extramural Research	<u>FTE</u>	Amount	FTE	Amount	<u>FTE</u>	Amount	<u>FTE</u>	<u>Amount</u>
<u>Detail</u>								
Reproductive Health, Pregnancy, and Perinatology		\$298,777		\$306,547		\$306,706		\$159
Pediatric Health		278,471		266,428		266,567		138
Intellectual and Developmental Disabilities		111,976		112,126		112,184		58
Demography and Behavior		257,339		276,715		276,859		144
Rehabilitation		55,897		66,864		66,899		35
Subtotal, Extramural		\$1,002,460		\$1,028,681		\$1,029,215		\$534
Intramural Research	345	\$179,534	345	\$184,304	345	\$186,147	0	\$1,843
Research Management & Support	258	\$62,713	258	\$64,625	258	\$68,125	0	\$3,500
TOTAL	603	\$1,244,707	603	\$1,280,830	603	\$1,283,487	0	\$2,657

<sup>&</sup>lt;sup>1</sup> Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

 $<sup>^{2}</sup>$  The amounts in the FY 2014 column take into account funding reallocations, and therefore may not add to the total budget authority reflected herein.

### **Authorizing Legislation**

	PHS Act/ Other Citation	U.S. Code Citation	2014 Amount Authorized	FY 2014 Enacted	2015 Amount Authorized	FY 2015 President's Budget
Research and Investigation	Section 301	42§241	Indefinite		Indefinite	
			>	\$1,280,830,000		<b>\$1,283,487,000</b>
National Institute of Child Health and Human Development	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				\$1,280,830,000		\$1,283,487,000

# **Appropriations History**

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2005 Rescission	\$1,280,915,000	\$1,280,515,000	\$1,288,900,000	\$1,280,915,000 (\$10,594,000)
2006 Rescission	\$1,277,544,000	\$1,277,544,000	\$1,310,989,000	\$1,277,544,000 (\$12,775,000)
2007 Rescission	\$1,257,418,000	\$1,257,418,000	\$1,264,500,000	\$1,254,707,000 \$0
2008 Rescission Supplemental	\$1,264,946,000	\$1,273,863,000	\$1,282,231,000	\$1,254,708,000 (\$22,309,000) \$6,673,000
2009 Rescission	\$1,255,920,000	\$1,299,059,000	\$1,290,873,000	\$1,294,894,000 \$0
2010 Rescission	\$1,313,674,000	\$1,341,120,000	\$1,316,822,000	\$1,329,528,000 \$0
2011 Rescission	\$1,368,894,000		\$1,366,750,000	\$1,329,528,000 (\$11,674,048)
2012 Rescission	\$1,352,189,000	\$1,352,189,000	\$1,303,016,000	\$1,323,900,000 (\$2,502,171)
2013 Rescission Sequestration	\$1,320,600,000		\$1,324,603,000	\$1,321,397,829 (\$2,642,796) (\$66,325,085)
2014 Rescission	\$1,339,360,000		\$1,330,459,000	\$1,282,595,000 \$0
2015	\$1,283,487,000			

#### **Justification of Budget Request**

#### Eunice Kennedy Shriver National Institute of Child Health and Human Development

Authorizing Legislation: Section 301 and Title IV of the Public Health Service Act, as amended.

Budget Authority (BA):

			F1 2013	
	FY 2013	FY 2014	President's	FY 2015 +/
	Final	Enacted	Budget	- FY 2014
BA	\$1,244,706,723	\$1,280,830,000	\$1,283,487,000	+2,657,000
FTE	603	603	603	0

EX 2015

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

#### **Director's Overview**

Understanding developmental change is at the heart of the NICHD mission. NICHD research touches the life of every person, starting with basic studies to understand the fundamental mechanisms that transform a single cell into a fully formed and healthy individual. NICHD clinical studies help improve the lifelong health and well-being of children, women, those with disabilities, families, and communities. The Institute's broad range of research spans developmental biology, reproductive health, pregnancy, pediatric/adolescent development, pediatric trauma, intellectual disability, demography and behavior, and rehabilitation research.

Within an essentially flat budget, NICHD intends to continue its focus on the highest priority research and the most scientifically meritorious projects. NICHD's core research has yielded an array of life-saving advances over the past 50 years. For instance, based on NICHD's collaborative research, HIV transmission from infected mother to fetus and infant has dropped from 25 percent to less than 1 percent in the United States. Likewise, the incidence of *Haemophilus influenzae* type B, once the leading cause of acquired intellectual and developmental disability in the United States, has been virtually eliminated, dropping by more than 99 percent. Building upon its compelling mission and strong science foundation, NICHD will continue to explore emerging opportunities in a wide array of scientific disciplines, thus moving forward key areas of interest to the NIH.

#### **Program Directions and Changes**

Over the past two years, NICHD has begun to transform its "Scientific Vision: The Next Decade" into a living document and guide. In addition to continuing to fund the investigator-initiated research that is central to its mission, NICHD plans to expand other work in a few of the many promising areas that the document highlights. NICHD will focus on funding a few additional grants in three areas: 1) new ways to study the placenta, arguably the most understudied human organ, and its impact on fetal, maternal, and lifelong health; 2) the science needed to improve contraceptive options for both men and women; and 3) the long-term implications of assisted reproductive technologies. These topics represent significant research

gaps unique to NICHD's mission and ones unlikely to be funded through other public or private research investments.

This past year, NICHD worked with two Blue Ribbon Panels. One reviewed the science and organization of NICHD's Division of Intramural Research (DIR); the other reviewed the science and organization of medical rehabilitation research across NIH, particularly the National Center for Medical Rehabilitation Research (NCMRR) at NICHD. The final report of the DIR Blue Ribbon Panel focused on how to maintain essential intramural research in the face of constrained resources. The NCMRR report offered ways to reshape and reinvigorate rehabilitation research. NICHD will begin implementing the most important recommendations of each report by reorganizing its intramural programs and by strengthening collaboration in rehabilitation research across NIH.

NICHD has continued to make decisions that incorporate emerging opportunities and NIH priorities while balancing competing needs. NICHD, working with its partners, supports compelling research efforts and focuses on high priority activities critical to the NICHD mission. NICHD has protected the next generation of researchers and the program that helps small business commercialize research innovations.

The nation continues to enjoy strong returns from NICHD's research investments, which ultimately improve clinical care and save lives. For example, NICHD research showed that the biology underlying early developmental growth holds promise for addressing cancer and understanding the basic mechanisms underlying growth and regeneration. Researchers have long known that some of the genes that promote rapid growth in prenatal and early postnatal life are reactivated in cancer cells. NICHD researchers identified a molecular on-off switch that controls some of these genes. This finding may help scientists understand the complex genetic choreography responsible for normal growth and identify some of the earliest origins of disease to help prevent certain cancers.

Recently, NICHD-supported researchers discovered possible new biomarkers for stillbirth and preeclampsia. This precision testing represents a first step to help scientists identify life-threatening conditions earlier and eventually prevent them. NICHD-supported researchers also helped to develop a wireless, implanted sensor to broaden the range of precision-oriented brain research. The sensor permits more natural studies of brain activity in moving subjects, a major step toward cord-free control of advanced prosthetics, powered by human thought, which could change the lives of those with physical disabilities.

Today's far-reaching technological and computational capabilities also offer unprecedented opportunities to connect researchers with each other, industry partners, and the public. NICHD established the first national Down syndrome registry, a Web-based registry that serves as a national resource for people with Down syndrome and their families, researchers, and health care providers. Although nationally based data resources can accelerate scientific progress, they must be used with great care. Recently, NICHD announced that it will co-fund new studies to understand how genomics, newborn screening technologies, and the collection and use of related data influence parental decision-making and physician behavior.

Advances that improve clinical practice and public health rely on basic research that provides new insights into long-standing health challenges. NICHD-supported researchers discovered that cells of the placenta secrete tiny, balloon-like structures called vesicles. Absorbed by other cells, the vesicles program the recipient cells to ward off viral infections. One day, researchers hope to transfer this innate virus-fighting ability to other organs and tissues. This exciting finding also illustrates the potential of conducting research on the placenta. Data increasingly suggest that the placenta, which changes over time, has a huge impact on the lifelong health of both baby and mother. Yet the mechanisms that underlie these protective or harmful outcomes remain a mystery. The great challenge lies in finding non-invasive and safe ways to study the human placenta in real time, to give researchers and clinicians their first window into the forces that shape health over time. NICHD will continue to focus on areas that few others can or will pursue and that hold the most promise to improve the health of children, women, those with disabilities, families, and communities.

#### **Program Descriptions and Accomplishments**

Reproductive Health, Pregnancy, and Perinatology – The program in reproductive health, pregnancy, and perinatology supports basic, clinical, and translational research on an array of topics, including fertility and infertility, contraception, gynecologic disorders, pregnancy, and care of the newborn. Training the next generation of researchers is also a critical component of the program. Program research on male and female fertility and infertility includes basic research on underlying mechanisms that impair the capacity to conceive, including heritable conditions and disorders. Program research on contraception encompasses discovery of new pharmaceutical targets and other methods to increase the variety of safe, effective, and acceptable contraceptive options for both women and men.

With NIH support, scientists are investigating genetic anomalies associated with uterine fibroids, non-cancerous tumors that cause pain and infertility in women. One research team discovered that a drug that effectively treats two skin diseases could also decrease the proliferation of fibroid cells by interfering with the function of certain genes. This promising finding has set the stage for developing new, non-surgical therapies for fibroids. Also capitalizing on accumulating research data, program support enabled an international group to develop the first worldwide consensus statement on the management of endometriosis, which causes severe pain, excessive bleeding, and infertility in women.

The program's pregnancy-related research spans preconception care, pregnancy, fetal growth, labor and delivery, and maternal and neonatal health. Studies to reduce rates of high-risk pregnancies and preterm birth complicated by preeclampsia and other conditions are included. The program also incorporates studies of how maternal obesity, infection, and medications in pregnancy can influence not only birth outcomes but also the health of the mother and the longer term health of the infant. Much of this research is conducted by scientists who collaborate through clinical research networks. In an effort to understand better the reasons that women have their first child by cesarean section, researchers reviewed 200,000 medical records and found that the most frequent reasons for these cesarean deliveries were failure of labor to progress, concern about fetal heart rate, and fetal position. Another specific program focus is assessing the safety and efficacy of pharmaceutical therapies during pregnancy. Scientists are working to determine whether specific medications are safe and effective for a pregnant woman

and her developing fetus, and at what doses. For example, a recent analysis of birth defect data collected over 14 years from a large group of women found no association between a mother's use of antibiotics during pregnancy and congenital heart defects in their infants. Other research showed that significant life events known to be stressors—such as, financial, emotional, traumatic, and partner-related stress--increased the odds of stillbirth for women. The more stressful events a woman experienced, the higher the risk of stillbirth, with the risks highest for black and Hispanic women.

#### Program Portrait: Gynecologic Health and Disease

FY 2014 Level: \$24.0 million FY 2015 Level: \$24.0 million Change: +\$0.0 million

Gynecologic diseases and conditions affect millions of women each year, causing chronic pain, infertility, incontinence, and other problems that can markedly decrease quality of life. Many women cope with these conditions on their own, because treatment options are often limited. The NICHD Gynecologic Health and Disease portfolio includes the first extramural NIH program devoted solely to gynecology, including study of the menstrual cycle, uterine fibroids, endometriosis, polycystic ovary syndrome, and pelvic floor disorders, as well as the study of mechanisms underlying chronic pelvic pain, vulvodynia, and dysmenorrhea. In addition, NICHD supports the Women's Reproductive Health Research Program and other research training and career development programs for investigators interested in the physiology and pathophysiology of human female reproduction.

The work of NICHD researchers includes both basic research on underlying mechanisms of gynecologic disorders and clinical studies to support improved diagnosis and treatment methods. Extramural clinical studies are often supported through research networks, such as the Pelvic Floor Disorders Network, which are dedicated to the study of these common, life-altering conditions that are frequently difficult to treat. Network scientists conducted a randomized clinical trial to compare two common treatments for female urinary incontinence: a prescription drug taken as a pill, and a form of botulinum toxin (Botox) taken by injection. The results showed that, over six months, both treatments were about equally effective, but had different side effects. Women and their physicians now have more detailed information to help them choose the treatment that is best for each woman, taking into account how the medication is administered and the possible risks of side effects. An NICHD-supported workshop contributed to the research community's ongoing effort to define research diagnostic criteria for vulvodynia to advance research and clinical knowledge of this common, painful, and poorly understood condition.

#### **Budget Policy:**

The FY 2015 President's Budget request for this program is \$306.706 million, an increase of \$0.159 million, or 0.1 percent above the FY 2014 Enacted level. In FY 2015, the program will continue to maintain its investments in, among other things, its Obstetric-Fetal Pharmacology Research Units Network and its efforts to expand contraception options for both women and men. A new program announcement will provide a sound foundation for the recently established Gynecologic Health and Disease Branch by stimulating multidisciplinary research in the fields of endometriosis, pelvic floor disorders, uterine fibroids, and vulvodynia. Two new initiatives will address scientific priorities identified by the Institute's visioning process. One will help to stimulate research on normal and abnormal characteristics of the placenta, the organ that is critical to the health of developing fetus during pregnancy. The second will stimulate studies of assisted reproductive technologies and their potential perinatal, childhood, and long-term health and developmental outcomes. The program will also emphasize basic research in novel stem cell culture systems to preserve and restore male fertility. Finally, this program will support initiatives to take advantage of large, existing data sets, containing a vast array of genetic and birth outcomes information, to help scientists improve the health of pregnant women and infants.

Pediatric Health – Pediatric research ranges from basic scientific studies of biological processes that control healthy and atypical development to clinical studies in pediatric pharmacology, HIV and associated infections, nutrition science, endocrinology, and pediatric trauma and critical illness. This program includes studies of congenital and developmental disorders to understand both the processes that keep embryonic and fetal development on track and the factors that can cause the developmental processes to go awry. The program supports research to expand relatively limited scientific knowledge about the safety, efficacy, and appropriate doses of medications for children. As part of NICHD's responsibilities under the Best Pharmaceuticals for Children Act, the program collaborates with the Food and Drug Administration to add or improve labeling of drugs for use in children.

Another program area includes domestic and international research on the epidemiology, diagnosis, clinical manifestations, disease process, transmission, and prevention of HIV infection and its effects in pregnant women, children, and adolescents. Based in part on NICHD research findings, new national and international guidelines were just released on the "Prevention and Treatment of Opportunistic Infections Among HIV-Exposed and HIV-Infected Children." These guidelines will make a significant difference in improving the lives of HIV-infected and affected children in the United States and globally. In addition, scientists recently reported that 35 percent of a group of school-age children born to women who were HIV positive during pregnancy had difficulty expressing themselves verbally and understanding spoken words. The findings support early screening and treatment for language impairment in children exposed before birth to maternal HIV. The program's research on nutrition and endocrinology helps scientists understand the interactive roles of nutrients and hormones in growth and development and the role of nutrition throughout the life cycle, but especially in infancy, childhood, and adolescence. A recent clinical study addressed public health officials' concerns that children who take dietary iron supplements to prevent anemia may be at higher risk for malaria. To test this theory, the researchers conducted a randomized controlled trial combining iron supplementation with malaria-prevention efforts (such as providing sleeping nets) in an area of Ghana with high levels of malaria. The researchers found that the risk of malaria was no higher for children who received nutritional supplements with iron than for those who did not.

Other program interests include lactation and breastfeeding, childhood obesity, and antecedents of bone health and early origins of osteoporosis, as well as a focus on pediatric critical illness and trauma. Researchers are building on findings that sports-related concussions, once dismissed as trivial injuries, can have severe and lasting effects on brain function. Scientists reported recently that, at the high school level, more coaches and trainers are using computerized neurocognitive testing for assessing concussions in athletes. The researchers found that players who received these tests sat out longer before returning to play, suggesting that the tests were detecting symptoms that would otherwise have gone undetected. The researchers also found, however, that the majority of high schools were still not using the tests as recommended, raising concerns about the potential for long-term neurocognitive damage.

#### Program Portrait: Pediatric Trauma and Critical Illness

FY 2014 Level: \$23.7 million FY 2015 Level: \$23.7 million Change: +\$0.0 million

Every year, more than nine million children visit hospital emergency departments for treatment of injuries, ranging from animal bites and insect stings to life-threating and fatal conditions resulting from vehicle accidents, falls, suffocation, drowning, and other causes. Pediatric trauma is the leading cause of death in children in the United States. Many children suffer from emotional trauma, often in conjunction with physical injury. Sadly, some pediatric trauma stems from child maltreatment. The Pediatric Trauma and Critical Illness Branch at NICHD supports research on the prevention and treatment of both physical and psychosocial trauma in children. Research covers the continuum of psychosocial, behavioral, biological, and physiological influences that affect child health outcomes in trauma, injury, and acute care. Children with a range of critical illnesses often need intensive care to manage the effects of their conditions. Interdisciplinary teams of scientists come together to assess the surgical, medical, psychosocial, and systems interventions needed to improve outcomes for critically ill and injured children. For example, young burn patients often experience losses in lean body mass, decreased bone mineral content and density, and nutritional problems that interfere with growth. Researchers conducted a randomized controlled trial of oxandrolone, a drug thought to help improve muscle mass, and followed the patients for five years to assess longterm outcomes. The scientists found that severely burned children who received oxandrolone improved their longterm recovery in height, bone mineral content, and muscle strength and that the drug was even more effective when combined with an exercise program. NICHD also supports basic, clinical, and translational studies that explore short- and long-term consequences of traumatic experiences such as natural and man-made disasters, acute forms of child maltreatment, and exposure to violence, as well as the impact of military deployment on child and family functioning.

#### **Budget Policy:**

The FY 2015 President's Budget request for this program is \$266.567 million, an increase of \$0.138 million, or 0.1 percent above the FY 2014 Enacted level. Among the continuing projects to be supported in FY 2015 are studies and grants relating to structural birth defects, ways to improve neonatal resuscitation and patient safety in perinatal care, and research training in pediatric and developmental pharmacology. The program will consolidate, in the recently (October 2012) created Pediatric Trauma and Critical Illness Branch, research studies detailing the complex physiological, behavioral, and psychosocial factors that affect child health outcomes in trauma, injury, and acute care. Another new initiative will capitalize on basic research discoveries that oligosaccharides, a component of human milk, protect the gastrointestinal tract of newborns from potentially fatal infection-related inflammation. This effort will encourage scientists to examine further the infection-fighting properties of oligosaccharides and then determine to what extent these compounds can be used in developing new approaches to combat serious gastrointestinal infections in populations of all ages.

#### Program Portrait: Longer-term Impacts of HIV/AIDS on Children and Adolescents

FY 2014 Level: \$26.5 million FY 2015 Level: \$26.5 million Change: +\$0.0 million

Infection with HIV is no longer the death sentence it once was, thanks to the availability of drugs to suppress and control the virus. Many children who were exposed to HIV in utero or at birth have been successfully treated with anti-retroviral medicines. Now that these children are surviving through adolescence and even into adulthood, we face many questions about the long-term effects of both exposure to the HIV virus itself and exposure to the potent drugs that saved their lives. NICHD, collaborating with other NIH Institutes and agencies, sought to answer these questions, particularly through the work of two key programs: the Pediatric HIV AIDS Cohort Study (PHACS) and the Adolescent Medicine Trials Network for HIV (ATN). The PHACS study is designed to help understand how HIV and its treatment affect the overall health, growth, and development of perinatally infected children, adolescents, and young adults. The ATN conducts research related to therapeutics, behavior, and community-based prevention efforts for HIV-infected adolescents. Through these research programs, researchers have found that children and adolescents treated for or exposed to HIV are at greater risk for many health problems. For instance, scientists have found that children treated for HIV are at increased risk for early development of high cholesterol, poor bone density, thyroid issues, heart and vascular dysfunction, asthma, and skin conditions. NICHD-supported researchers are working to develop interventions to address these problems. Further studies of how HIV treatment affects developing organs are underway, to see if it is possible to prevent HIV-related complications and improve long-term quality of life.

Intellectual and Developmental Disabilities – The program in intellectual and developmental disabilities (IDD) supports basic, clinical, and translational research as well as research training to advance knowledge of the origins of common and rare disorders such as Down syndrome, Fragile X, and Rett syndromes; inborn errors of metabolism; and autism spectrum disorder. The program also strives to understand the complex processes through which these disorders influence cognitive, emotional, social, and physical development through the lifespan. For example, scientists discovered that a specific peptide, when injected into mice before exposure to alcohol, protected the immune system from some of the damaging effects seen in fetal alcohol syndrome. The program also recognizes that detecting IDD and beginning proven therapies as early as possible increases the likelihood of better outcomes for children in both the short- and long-term. Accordingly, IDD research encompasses newborn screening studies in addition to research on better ways to diagnose, treat, and manage IDD starting at the earliest age possible. The IDD program collaborates with other NIH Institutes and Centers in multiple endeavors, including the NIH Down Syndrome Working Group, the Trans-NIH Fragile X Research Coordinating Group, and the research sites known as Autism Centers of Excellence. Program collaborations also include partnerships with other federal agencies and with family and professional associations that share commitments to advancing IDD research. NICHD established the public-private Down Syndrome Consortium, in which the Down Syndrome Working Group joined with 13 national organizations to foster the exchange of information on biomedical and behavioral research on this condition. The Consortium played a lead role in creating DS-Connect<sup>TM</sup>: The Down Syndrome Registry.

#### **Budget Policy:**

The FY 2015 President's Budget request for this program is \$112.184 million, an increase of \$0.058 million, or 0.1 percent above the FY 2014 Enacted level. In FY 2015, maintaining investments in research resources will provide investigators with the infrastructure needed to conduct basic and translational research in IDD. The program will continue to support a

repository for the production, maintenance, and distribution of mice bred with a specific category of chromosomal abnormalities, with a primary emphasis on mouse models for Down syndrome. The program will continue to set a high priority on support for scientists working to identify developmental mechanisms of birth defects. The program will also maintain ongoing investigations into the causes of, and potential treatments and prevention strategies for, ASD and other forms of IDD. A new collaborative effort with the NHLBI will establish a translational research consortium to investigate the genetic etiology of congenital heart disease and neurodevelopmental abnormalities, including cognitive deficits, which are known to be associated with congenital heart disease.

Demography and Behavior – The program in demography and behavior supports research and research training in the characteristics and dynamics of populations and subpopulations and how these dynamics ultimately influence human health. Demography and population dynamics research helps to increase understanding of the causes and consequences of population structure and change in such areas as fertility, family function, urbanization and migration, including their implications for the health of families and communities. Studies in this area assess factors that affect family formation, functioning and stability, and the influence of families on child health and behavior. The program also supports a wide range of longitudinal population studies, such as the National Longitudinal Study of Adolescent Health (Add Health), that continue to yield data widely used by the scientific community to assess the lasting impacts of adolescents' beliefs and behaviors on their health. Researchers also seek to understand the broader social and behavioral factors that contribute to the spread of sexually transmitted infections and other health problems. In addition, the program encompasses research in a wide range of behavioral and developmental areas relevant to the psychological, psychobiological, language, behavioral, educational development, and health of children. This includes studies to understand typical cognitive, affective, and social development. The program's basic and applied behavioral research targets understanding how neurobiological, genetic, and environmental factors work together to shape behavioral development and learning. Research efforts, including intervention studies, have focused on identifying how these factors contribute to a wide range of problems, such as those involving language acquisition and reading skills, math and science learning, attention, reasoning, problem-solving, and risk-taking behaviors. This research is also designed to recognize the important role of peer relationships, social networks, and new media, as well as parental and school influences.

#### **Budget Policy:**

The FY 2015 President's Budget request for this program is \$276.859 million, an increase of \$0.144 million, or 0.1 percent above the FY 2014 Enacted level. In FY 2015, the program will continue to support a major research infrastructure program for the demographic and population sciences, aimed at increasing the pace and impact of this research and encouraging collaborations, with a focus on emerging research topics and nurturing the careers of young scientists. The program will also continue to support research on the neurological processes underlying how children learn, to enhance and improve interventions that can inform educational practice and help improve the health and well-being of children and their families.

<u>Rehabilitation</u> – Through the National Center for Medical Rehabilitation Research (NCMRR), the rehabilitation program fosters research and research training to enhance the health, productivity, independence, and quality of life of people with disabilities. The program supports

a broad range of research, including efforts to understand the underlying biology of injury and disability and the body's mechanisms of recovery and adaptation. The Center's activities include a special emphasis on research related to spinal cord injury (SCI), traumatic brain injury (TBI), and stroke, frequently in collaboration with other NIH Institutes and Centers and outside partners. To complement this research, the Center also supports the development of medical devices and equipment and treatments to improve mobility and to enhance the functional capabilities of individuals with disabling conditions. For example, researchers searching for a way to reduce muscle spasms in individuals with SCI recently compared the effects of applying vibration to lower leg muscles in patients with SCI and volunteers without SCI. The scientists discovered that, in the muscles SCI affects, vibration increased the expression of genes related to healing and growth of neurons. Accordingly, the researchers are beginning further tests to determine whether treating affected muscles with repeated vibration could promote healing and reduce muscle spasms (and muscle stiffness) in SCI. A multidisciplinary Blue Ribbon Panel completed its review of rehabilitation research across NIH and highlighted opportunities for NCMRR to increase coordination of rehabilitation research activities with other Institutes and Centers and federal partners. This program will move forward to take full advantage of these opportunities, implementing steps to restructure how NCMRR supports rehabilitation research and leverages its research funding.

#### **Budget Policy:**

The FY 2015 President's Budget request for this program is \$66.899 million, an increase of \$0.035 million, or 0.1 percent above the FY 2014 Enacted level. In response to the Blue Ribbon Panel recommendations, NICHD will dedicate approximately 6.5 percent of the Institute's extramural funding to rehabilitation research, including support of research project grants through collaborations with other Institutes and Centers and funders and continued support for a research network providing infrastructure to help researchers nationwide strengthen and expand their scope of rehabilitation research. NICHD's infrastructure grants provide scientists with access to specialized expertise, equipment, and resources, such as computer simulations for understanding movement disorders, techniques for analyzing how genes influence the recovery process, and robots and sensors to help deliver and analyze treatments. In a new collaborative initiative, the Center will work with other NIH components to support the development of home monitoring devices and other technologies that will enable individuals with disabling or chronic conditions to live independently at home, enhancing their functionality and quality of life. In another new effort, the Center will challenge teams of scientists from academic medicine and small businesses to assess a series of blood, serum, and plasma biomarkers and determine the ability of these biomarkers to help track and monitor TBI-related brain damage and recovery over time. This initiative builds on recent neuroscience discoveries and represents a first step in helping to move these biomarkers into mainstream clinical use.

<u>Intramural Research</u> – The Division of Intramural Research (DIR) conducts interdisciplinary research to answer basic biomedical research questions and solve difficult clinical problems in human health and development. Research training and mentoring is an essential element of this program. DIR research includes investigations in genetics, genomics, and epigenetics and how these factors influence typical and atypical development and disease processes. The intramural program emphasizes the importance of fundamental research on the physics, chemistry, and biology of cells, their component parts, and the processes that govern and regulate their function in the developing organism. For example, DIR scientists examined the interactions between

small proteins and a cellular "pump" within a common bacterium. They discovered that one of these small proteins plays a role in the development of antibiotic resistance by helping to recognize and export certain drugs out of the cell. This type of information could provide an important puzzle piece in the quest to combat the growing incidence of serious and sometimes fatal antibacterial drug resistance.

Scientists in the NICHD intramural program also study the basic biophysical mechanisms that underlie cell biology and tissue function and how these factors influence development, particularly in the nervous, endocrine, and reproductive systems. The intramural program places special emphasis on translational research. Recently, NICHD intramural scientists discovered a possible way to identify, early in pregnancy, serious abnormalities that may make it difficult to support a viable pregnancy. The NICHD intramural program also includes behavioral research; studies to develop innovative ways to diagnose endocrine, metabolic, and reproductive diseases; and studies to understand the impact of pediatric diseases and disorders on child development. For example, investigators found that young children being treated for non-nervous system cancers performed more poorly on motor, mental, and language skills than did healthy children of the same age. On the other hand, the children with cancer engaged in exploratory and symbolic play as well as did the healthy children and maintained their emotional relationships with their mothers. These insights suggest ways that parents and clinicians can work with children to overcome learning difficulties. Additional multidisciplinary studies combine biostatistics, mathematics, genetics, statistics, and epidemiology to address critical health issues in human fertility, pregnancy outcomes, childhood growth and injuries, and pediatric chronic disease. NICHD researchers also conduct community-based interventions to promote health and prevent disease in children, adolescents, and their families. A Blue Ribbon Panel completed a comprehensive review of the DIR and developed wide-ranging recommendations to guide the Division. Given emerging scientific needs and opportunities and resource constraints, the NICHD Scientific Director will work with program scientists and other Institute leadership to develop a strategic plan to guide future intramural research, both scientifically and organizationally.

#### **Budget Policy:**

The FY 2015 President's Budget request for this mechanism is \$186.147 million, an increase of \$1.843 million, or 1.0 percent above the FY 2014 enacted level. In FY 2015, funding increases will support the increased personnel and scientific costs to sustain the intramural research programs. The program will continue to lead and participate in the NIH initiative to leverage the diverse resources, expertise, and infrastructure of the NIH Clinical Center by enabling external researchers to collaborate with NIH clinical investigators in a wide range of research projects. These include clinical studies that are considered intellectually challenging and risky, but that offer the potential of high reward with new medical breakthroughs. Continuing priorities for the intramural program also include unraveling the genetic, genomic, and epigenetic underpinnings of human development. Such research is key to understanding the basis for many critical developmental events that can determine future health and well-being. Another critical focus is "bench-to-bedside" research that allows novel, basic scientific discoveries to be translated quickly into clinical protocols and evaluated for effectiveness in treating or preventing disease.

<u>Research Management and Support (RMS)</u> – RMS activities include the administrative and technical functions that support and enhance the use, accessibility, accountability, transparency,

and dissemination of the Institute's research investments. Central functions include budget formulation and accounting, contracts, grants management, peer review, and information technology. The RMS budget also supports NICHD's overall science planning and policyrelated activities, public reporting, and public communications. The latter includes a range of activities to improve public health, targeting issues such as ways to reduce the risk of Sudden Infant Death Syndrome and other sleep-related causes of infant death, and ways to improve birth outcomes. In particular, the National Child and Maternal Health Education Program (NCMHEP), representing a consortium of over 30 national health provider and non-profit organizations and federal agencies, launched a new initiative this past year. The new campaign focused on ways to improve birth outcomes by educating providers and the public about the need to wait until at least 39 weeks of pregnancy to deliver if the mother's or baby's health are not in danger. The RMS budget has also supported the reorganization of the NICHD extramural program and the development of a wide range of new media to help communicate NICHD's scientific advances to the public and to alert the scientific community about new research opportunities. The Institute's extensive scientific review activities help to ensure that NICHD funds the most meritorious research; ongoing program analyses, scientific program evaluations, and review of administrative functions help to ensure the effectiveness and efficiency of NICHD activities.

#### **Budget Policy:**

The FY 2015 President's Budget request for this mechanism is \$68.125 million, an increase of \$3.500 million, or 5.4 percent above the FY 2014 Enacted level. In FY 2015, the NICHD RMS activities will continue to include efforts to manage and update website content to disseminate the most current information to the public and to the many constituencies vested in the outcomes of NICHD research. In addition, a one-time increase in funds will be used to support the move of the majority of the RMS staff to a new location, including costs related to establishing the facility in preparation for occupancy. This move is in conjunction with a replacement lease consolidation that reduces square footage and lease costs, and improves collaboration between extramural scientific and administrative programs in NICHD. In collaboration with other NIH Institutes and Centers, NICHD will initiate four new evaluations of national research programs to ensure they are being implemented effectively and efficiently, and to help guide their future directions.

#### **Budget Authority by Object Class<sup>1</sup>**

		FY 2014 Enacted	FY 2015 President's Budget	FY 2015 +/- FY 2014
Total c	ompensable worky ears:			
	Full-time employment	603	603	0
	Full-time equivalent of overtime and holiday hours	1	1	C
	Average ES salary	\$180	\$180	\$0
	Average GM/GS grade	12.1	12.1	0.0
	Average GM/GS salary	\$102	\$103	\$0
	Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207)	\$138	\$138	\$0
	Average salary of ungraded positions	\$118	\$118	\$0
			FY 2015	FY 2015
		FY 2014	President's	+/-
	OBJECT CLASSES	Enacted	Budget	FY 2014
	Personnel Compensation			
11.1	Full-Time Permanent	\$37,351	\$37,724	\$374
11.3	Other Than Full-Time Permanent	24,316	24,559	243
11.5	Other Personnel Compensation	957	967	10
11.7	Military Personnel	1,797	1,815	18
11.8	Special Personnel Services Payments	12,234	12,356	122
11.9	Subtotal Personnel Compensation	\$76,656	\$77,422	\$767
12.1	Civilian Personnel Benefits	\$19,521	\$20,204	\$683
12.2	Military Personnel Benefits	1,430	1,444	14
13.0	Benefits to Former Personnel	0	0	0
	Subtotal Pay Costs	\$97,606	\$99,070	\$1,464
21.0	Travel & Transportation of Persons	\$1,472	\$1,475	\$3
22.0	Transportation of Things	182	185	3
23.1	Rental Payments to GSA	0	0	0
23.2	Rental Payments to Others	21	22	0
23.3	Communications, Utilities & Misc. Charges	1,425	1,426	1
24.0	Printing & Reproduction	0	0	C
25.1	Consulting Services	\$858	\$873	\$15
25.2	Other Services	17,234	17,221	-13
25.3	Purchase of goods and services from government accounts	\$134,554	\$138,388	\$3,834
25.4	Operation & Maintenance of Facilities	\$1,115	\$1,134	\$19
25.5	R&D Contracts	124,305	125,634	1,329
25.6	Medical Care	1,092	1,133	40
25.7	Operation & Maintenance of Equipment	3,167	3,221	54
25.8	Subsistence & Support of Persons	0	0	C
25.0	Subtotal Other Contractual Services	\$282,326	\$287,603	\$5,277
26.0	Supplies & Materials	\$8,885	\$8,716	-\$169
31.0	Equipment	6,273	8,581	2,309
32.0	Land and Structures	0	0	C
33.0	Investments & Loans	0	0	C
41.0	Grants, Subsidies & Contributions	882,640	876,408	-6,232
42.0	Insurance Claims & Indemnities	0	0	·
43.0	Interest & Dividends	1	1	C
44.0	Refunds	0	0	C
	Subtotal Non-Pay Costs	\$1,183,224	\$1,184,417	\$1,193
	Total Budget Authority by Object Class	\$1,280,830	\$1,283,487	\$2,657

<sup>&</sup>lt;sup>1</sup> Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

# **Salaries and Expenses**

		FY 2015	FY 2015
	FY 2014	President's	+/-
OBJECT CLASSES	Enacted	Budget	FY 2014
Personnel Compensation			
Full-Time Permanent (11.1)	\$37,351	\$37,724	\$374
Other Than Full-Time Permanent (11.3)	24,316	24,559	243
Other Personnel Compensation (11.5)	957	967	10
Military Personnel (11.7)	1,797	1,815	18
Special Personnel Services Payments (11.8)	12,234	12,356	122
Subtotal Personnel Compensation (11.9)	\$76,656	\$77,422	\$767
Civilian Personnel Benefits (12.1)	\$19,521	\$20,204	\$683
Military Personnel Benefits (12.2)	1,430	1,444	14
Benefits to Former Personnel (13.0)	0	0	0
Subtotal Pay Costs	\$97,606	\$99,070	\$1,464
Travel & Transportation of Persons (21.0)	\$1,472	\$1,475	\$3
Transportation of Things (22.0)	182	185	3
Rental Payments to Others (23.2)	21	22	0
Communications, Utilities & Misc. Charges (23.3)	1,425	1,426	1
Printing & Reproduction (24.0)	0	0	0
Other Contractual Services:			
Consultant Services (25.1)	858	873	15
Other Services (25.2)	17,234	17,221	-13
Purchases from government accounts (25.3)	98,680	96,169	-2,511
Operation & Maintenance of Facilities (25.4)	1,115	1,134	19
Operation & Maintenance of Equipment (25.7)	3,167	3,221	54
Subsistence & Support of Persons (25.8)	0	0	0
Subtotal Other Contractual Services	\$121,055	\$118,618	-\$2,436
Supplies & Materials (26.0)	\$8,885	\$8,716	-\$169
Subtotal Non-Pay Costs	\$133,039	\$130,441	-\$2,598
Total Administrative Costs	\$230,645	\$229,512	-\$1,134

## Detail of Full-Time Equivalent Employment (FIE)

	FY	2013 Act	ual	F	Y 2014 Es	t.	F	Y 2015 Es	t.
OFFICE/DIVISION	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Extramural Research									
Direct:	125	1	126	125	1	126	125	1	126
Reimbursable:	_	-	_	-	_	-	_	-	-
Total:	125	1	126	125	1	126	125	1	126
Division of Intramural Programs									
Direct:	333	12	345	333	12	345	333	12	345
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	333	12	345	333	12	345	333	12	345
National Center for Medical									
Rehabilitation Research									
Direct:	8		8	8		8	8	-	8
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	8		8	8		8	8	-	8
Office of the Director									
Direct:	96	1	97	96	1	97	96	1	97
Reimbursable:	25	2	27	25	2	27	25	2	27
Total:	121	3	124	121	3	124	121	3	124
Total	587	16	603	587	16	603	587	16	603
Includes FTEs whose payroll obligations	are suppo	rted by the	e NIH Cor	nmon Fun	d.				
	0	0	0	0	0	0	0	0	0
FTEs supported by funds from									
Cooperative Research and									
Development Agreements.					00.0				
FIS CAL YEAR				Aver	age GS G	rade			
2011	12.1								
2012	12.3								
2013		12.1							
2014					12.1				
2015					12.1				

#### **Detail of Positions**

GRADE	FY 2013 Actual	FY 2014 Enacted	FY 2015 President's Budget
Total, ES Positions	3	3	3
Total, ES Salary	538,820	538,820	538,820
GM/GS-15	58	58	58
GM/GS-14	83	83	83
GM/GS-13	66	66	66
GS-12	63	63	63
GS-11	34	34	34
GS-10	4	4	4
GS-9	21	21	21
GS-8	22	22	22
GS-7	24	24	24
GS-6	4	4	4
GS-5	3	3	3
GS-4	2	2	2
GS-3	1	1	1
GS-2	1	1	1
GS-1	0	0	0
Subtotal	386	386	386
Grades established by Act of July 1, 1944 (42 U.S.C. 207)	0	0	0
Assistant Surgeon General	0	0	0
Director Grade	13	13	13
Senior Grade	1	1	1
Full Grade	0	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	14	14	14
Ungraded	201	201	201
Total permanent positions	408	408	408
Total positions, end of year	609	609	609
Total full-time equivalent (FTE) employment, end of year	603	603	603
Average ES salary	179,607	179,607	179,607
Average GM/GS grade	12.1	12.1	12.1
Average GM/GS salary	100,648	101,654	102,671

Includes FTEs whose payroll obligations are supported by the NIH Common Fund.